REMARKS

This paper is responsive to a Non-Final Office action dated March 2, 2006. Claims 1-21 were examined. New claims 22-23 are being added by way of the instant amendment.

Claim Rejections – 35 U.S.C. §103

Claims 1-9 and 11-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Torode, U.S. Patent No. 5,451,912 (hereinafter, "Torode") in view of Novac et al., U.S. Patent No. 6,930,917 (hereinafter, "Novac"). Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Torode, in view of Novac et al., and further in view of Fallisgaard et al., U.S. Pat. No. 6,664,860 (hereinafter "Fallisgaard").

Claims 20 and 21 have been amended to depend from claim 19. Accordingly, the objections regarding claims 3 and 20, and 4 and 21 are believed to be moot.

Claim Rejections of claims 1-9 and 11-21

An embodiment of the present invention is directed to an output terminal that in a first mode receives serial communications over the terminal and then the terminal is permanently converted to operate in a second mode as an output enable terminal that selectively enables an output according to a voltage on the terminal.

While Torode teaches a terminal that functions as an output disable (OD) terminal and as a programming input, applicant respectfully submits that Torode fails to teach permanently converting the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal. The Office action states that Torode teaches at col. 3, lines 41 45 that "the mode change is permanent as apparatus programming is a one-time event." Applicant disagrees as to what Torode teaches. That portion of Torode states:

> Fig. 2 illustrates one embodiment of the programmable crystal oscillator 100 of the preset invention. The programmable crystal oscillator 100 contains a programmable circuit 20 and a crystal 220. The programmable circuit 210 permits one time selectability

> of a wide range of frequencies, ranging from 00 kilo hertz (KHz) to 120 mega hertz (MHz), with use of the single crystal 220.

Torode says nothing about a permanent mode change with respect to operation of the OD pin. Instead Torode discusses one time selectability of frequencies, which does not affect operation of the OD pin for programming. That is made clear by the description of Torode's programming and control circuit. In Fig. 7 Torode teaches that the shift register 710 continually shifts data when the programmable crystal oscillator 100 is powered on. Col. 6, lines 28-30. On detection of a start bit, the shift register shifts in serial data. Col. 6, lines 30-32. In all the description of the use of the OD pin as the serial input, nowhere does Torode discuss permanently disabling the shift register 710. In fact, Torode also says that the stop shift logic 720 disables the shift register by deactivating the shift output after the 28 bit input parameter has been received. Col. 6, lines 43-48. Torode teaches in col. 7 that the power on initialization circuit 75 clears the shift register and that power needs to be cycled each time the programming circuit is to receive a new input parameter. Thus, Torode teaches that when the device powers up, the serial mode of operation is available using the OD pin. Torode teaches nothing regarding disabling that mode after programming. In fact Torode teaches a mode of operation (CONFIG1) in which the OD pin is used as the reference source instead of the crystal oscillator and the output disable function is not available.

Accordingly, in view of what Torode actually teaches, applicant respectfully submits that Torode in no way teaches control circuitry coupled to the terminal to permanently convert the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal. Applicant notes that Novac fails to make up for the shortcomings of Torode and therefore submits that claim 1 and all claims dependent thereon distinguish over the references of record.

Applicant respectfully submits with respect to claim 2 that Torode fails to teach that once the terminal is converted to the second mode of operation, the first mode of operation for the terminal is permanently disabled. While, the Office action points to col. 3, lines 41-45 or Torode, as pointed out above, nothing in that section of Torode (or elsewhere in Torode or Novak) teaches permanently disabling the first mode.

Claim 11 recites utilizing a terminal in a first mode of operation in which serial communications are received over the terminal; and subsequently converting the terminal to a second mode of operation in response to a received command, in which the terminal functions as the input control for selectively enabling an output according to a value of terminal voltage. The Office action states that Torode teaches two modes for the Output Disable (OD) terminal. The first mode is a programming terminal and the second mode is an output enable terminal. The Office action admits that Torode does not teach conversion from the first to the second mode in response to a received command. The Office action relies on Fig. 3, col. 11, lines 4-12 of Novac and the signal CLOSELOCK_n as teaching conversion from the first to the second mode in response to a received command. Applicant respectfully disagrees.

Novac teaches using the terminal PAD_OE as a control terminal for controlling the communication mode of the PAD_OUT terminal. See col. 9, lines 55-60. When PAD_OE is at a predetermined voltage, the PAD_OUT terminal may be used for serial communications. Col. 11, lines 4-12 simply teaches the write or read key used by Novac after the communications mode is already determined. That has nothing to do with the claimed first mode of operation in which serial communications are received over the terminal; and subsequently converting the terminal to a second mode of operation in response to a received command, in which the terminal functions as the input control for selectively enabling an output according to a value of terminal voltage. The received command taught by Novac does not cause the terminal to convert to the second mode of operation, which the Examiner defined as being used as an output enable terminal. Thus, combining Torode and Novac fails to achieve the claimed invention. Accordingly, applicant submits that claim 11 and all claims dependent thereon distinguish over the references of record.

Claim 19 recites means for permanently converting the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions as a control input to selectively enable an output according to a voltage value on the terminal. Torode says nothing about a permanent conversion from the first mode to the second mode. Instead Torode discusses one time selectability of frequencies, not operation of the OD pin for programming. Accordingly, applicant respectfully submits that claim 19 and all claims dependent thereon distinguish over the reference of record.

New claims 22-23 have been added to recite features of the invention not taught in the art of record.

Summary

In summary, claims 1-23 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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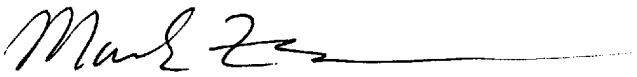
Respectfully submitted,



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